

Exhibit F to Application
Sercy Testimony

**STATE OF SOUTH CAROLINA
BEFORE THE PUBLIC SERVICE COMMISSION**

Docket No. 2022-____-E

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In the Matter of:

Application of SR Lambert I, LLC for a Certificate of
Environmental Compatibility and Public Convenience
and Necessity for the Construction and Operation of a
100 MW Solar Facility in Georgetown County, South
Carolina Pursuant to S.C. Code Ann. § 58-33-10 et.
seq., and Request to Proceed with Initial Construction
Work, S.C. Code Ann. § 58-33-110(7).

In the Matter of:

Application of SR Lambert II, LLC for a Certificate of
Environmental Compatibility and Public Convenience
and Necessity for the Construction and Operation of a
100 MW Solar Facility in Georgetown County, South
Carolina Pursuant to S.C. Code Ann. § 58-33-10 et.
seq., and Request to Proceed with Initial Construction
Work, S.C. Code Ann. § 58-33-110(7).

**PRE-FILED DIRECT TESTIMONY OF KENNETH SERCY ON BEHALF OF
SR LAMBERT I, LLC AND LAMBERT II, LLC**

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1 **Q. PLEASE STATE YOUR NAME, OCCUPATION, AND BUSINESS**
2 **ADDRESS.**

3 A. My name is Kenneth Sercy. I am an independent electric sector consultant, and my
4 business address is 2958 Syracuse Street #401, Denver CO 80238.

5 **Q. ON WHOSE BEHALF ARE YOU PROVIDING TESTIMONY?**

6 A. I am providing testimony on behalf of Silicon Ranch Corporation (“Silicon
7 Ranch”).

8 **Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND**
9 **PROFESSIONAL EXPERIENCE.**

10 A. I have a Bachelor of Science degree from Clemson University and a Master of
11 Environmental Management degree from Duke University, and ten years of experience in
12 electricity markets, policy, and regulation focused on engineering-economic modeling and
13 cost-of-service ratemaking. I have designed, run, and evaluated a variety of electric power
14 modeling analyses including production cost, capacity expansion, and avoided cost and
15 related cost-effectiveness tests, and have evaluated cost recovery, resource planning, asset
16 certification, program and tariff design in more than sixty regulated utility proceedings,
17 primarily in South Carolina. My professional experience also includes modeling renewable
18 energy project economics and conducting market research on competitive procurements,
19 power purchase agreement terms, and interconnection queues.

20 While studying at Duke University, I worked for two years at the Nicholas Institute
21 for Environmental Policy Solutions supporting energy modeling research using the US
22 Department of Energy’s National Energy Modeling System. After graduating from Duke

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1 in 2012, I served as the South Carolina Coastal Conservation League's Utility Regulation
2 Specialist for five years, where I managed the organization's work before the South
3 Carolina Public Service Commission ("Commission") and supported a variety of electric
4 sector policy objectives. Since 2018, I have worked as an independent clean energy
5 consultant providing expert witness testimony, regulatory analysis and guidance, energy
6 modeling services, and market research relating to renewable energy and energy storage
7 development, in both traditionally regulated and competitive wholesale regions of the
8 United States. I have co-authored technical papers published by Clemson University's
9 Strom Thurmond Institute, the North Carolina Sustainable Energy Association, and the
10 journal *Energy Policy*. A copy of my *curriculum vitae* is included as **Exhibit 1** to my
11 testimony.

12 **Q. HAVE YOU PREVIOUSLY PROVIDED TESTIMONY TO THIS**
13 **COMMISSION?**

14 A. Yes, I provided testimony on behalf of the South Carolina Solar Business Alliance
15 in Docket No. 2019-226-E regarding Dominion Energy South Carolina's ("DESC") 2020
16 Integrated Resource Plan. I also provided testimony on behalf of the South Carolina
17 Coastal Conservation League and the Southern Alliance for Clean Energy in Docket No.
18 2019-365-E regarding competitive procurement of renewable energy, and in Docket No.
19 2021-88-E regarding DESC's avoided cost rates.

20 **Q. PLEASE DESCRIBE THE PRIMARY BUSINESS ACTIVITIES AND**
21 **EXPERIENCE OF SILICON RANCH AS IT RELATES TO THE APPLICATION.**

1 A. Silicon Ranch is one of the largest independent solar power producers in the United
2 States, with a portfolio of over 2.1 GW of solar photovoltaic projects that are contracted,
3 under construction, or operating, and another 2 GW in its development pipeline. The
4 Company owns and operates 135 solar facilities in 15 states, including numerous projects
5 in Southeastern states such as Tennessee, Mississippi, and Georgia. Silicon Ranch owns
6 and operates its entire portfolio for the long-term, and has successfully executed every
7 project for every PPA it has signed since commencing operations in 2011.

8 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

9 A. Silicon Ranch is applying for a certificate of environmental compatibility and
10 public convenience and necessity (“CEPCN”) for the SR Lambert I and SR Lambert II
11 projects (“SR Projects”). My testimony demonstrates that the SR Projects meet key
12 statutory requirements for issuing a CECPCN. More specifically, my testimony establishes
13 the need for the facilities, that the facilities serve the interests of system economy and
14 reliability, and that the public convenience and necessity require the construction of the
15 facilities. I also provide observations and commentary on the broader policy and grid
16 planning context for the application.

17 **Q. PLEASE PROVIDE AN OVERVIEW OF THE SR PROJECTS.**

18 A. SR Lambert I is a 100 MW-ac solar photovoltaic facility with single-axis tracking
19 capability to be located in Georgetown County, South Carolina, and expected to achieve
20 commercial operation in Q1 2023. SR Lambert II is a companion facility of the same
21 technology, located adjacent to SR Lambert I in Georgetown County, with the same
22 expected commercial operational capacity and timeline.

1 **Q. PLEASE PROVIDE A BRIEF SUMMARY OF YOUR CONCLUSIONS AND**
2 **RECOMMENDATIONS.**

3 A. My testimony concludes that there is a demonstrated need for the SR Projects, to
4 meet demand for solar energy identified in the long-term planning efforts used by South
5 Carolina utilities to satisfy their goals as electric service providers. Additionally, the
6 detailed economic and reliability analyses performed as part of these utilities' integrated
7 resource planning processes found that solar energy such as that provided by the SR
8 Projects would improve system economics while maintaining reliability at all times. Thus,
9 there is a need for the SR Projects, the SR Projects have been shown to compare favorably
10 to other generation options, and the SR Projects serve the interest of system economy and
11 reliability. I believe that the public convenience and necessity require the construction of
12 the SR Projects, and I recommend that the Commission grant the SR Projects' CECPCN.

13 **Q. HOW IS YOUR TESTIMONY ORGANIZED?**

14 A. My testimony is organized as follows:

- 15 I. The South Carolina Siting Act
- 16 II. The Need for the Facility
- 17 III. System Economy
- 18 IV. System Reliability
- 19 V. Additional Considerations
- 20 VI. Conclusions and Recommendations

21

22

1 **I. THE SOUTH CAROLINA SITING ACT**

2 **Q. PLEASE DESCRIBE THE STATUTORY REQUIREMENTS FOR ISSUING**
 3 **A CECPCN.**

4 A. The statutory requirements for issuing a CECPCN are found in SC Code Title 58,
 5 Chapter 33, commonly referred to as “the Siting Act.” The Siting Act states that “The
 6 Commission may not grant a certificate for the construction, operation and maintenance of
 7 a major utility facility...unless it shall find and determine” six enumerated elements
 8 relating to the facility.¹ My testimony addresses several of these elements, including “the
 9 basis of the need for the facility,” “that the facilities will serve the interests of system
 10 economy and reliability,” and “that public convenience and necessity require the
 11 construction of the facility.” I also provide testimony related to the additional Siting Act
 12 requirement that “a person may not commence construction of a major utility facility for
 13 generation without first having made a demonstration that the facility to be built has been
 14 compared to other generation options in terms of cost, reliability, and any other regulatory
 15 implications deemed legally or reasonably necessary for consideration by the
 16 commission.”²

17 **II. THE NEED FOR THE FACILITY**

18 **Q. PLEASE PROVIDE A BRIEF SYNOPSIS OF THE NEED FOR THE**
 19 **FACILITY.**

¹ S.C. Code Ann. § 58-33-160.

² S.C. Code Ann. § 58-33-110(8)(a).

1 A. The SR Projects contribute to meeting demand for solar energy in South Carolina.
 2 In particular, the South Carolina Public Service Authority (commonly known as “Santee
 3 Cooper”) has identified a need for adding solar photovoltaic generation to its system energy
 4 mix, and Central Electric Power Cooperative (“Central”) has also conducted analyses that
 5 found that adding solar generation to its system would benefit its members.

6 **Q. PLEASE ELABORATE ON THE BASIS OF THE NEED FOR THE**
 7 **FACILITY.**

8 A. The technology, market, regulatory, and policy conditions of today’s electricity
 9 sector are driving a broad trend across the United States of aging fossil-fueled power plants
 10 becoming uncompetitive and retiring,³ while lower cost resources such as solar
 11 photovoltaics are being widely adopted as part of generation mixes.⁴ These trends are
 12 evident in South Carolina, including for the state’s investor owner utilities (“IOUs”) and
 13 for Santee Cooper and Central.

14 For instance, Santee Cooper’s 2020 integrated resource plan (“IRP”) released in
 15 December 2020 concludes that the utility’s preferred plan includes 500 MW of new solar
 16 photovoltaic generation added to its system by 2023.⁵ Further, Central’s 2020 IRP
 17 determined that adding 225 MW of solar PV to its system by 2022 was part of a long-term
 18 plan that was lower cost than alternative plans that the utility evaluated.⁶

³ For example, see US Energy Information Administration, Today in Energy (December 28, 2018), “U.S. coal consumption in 2018 expected to be the lowest in 39 years”

<https://www.eia.gov/todayinenergy/detail.php?id=37817>

⁴ For example, see US Energy Information Administration, Today in Energy (January 11, 2021), “Renewables account for most new U.S. electricity generating capacity in 2021”

<https://www.eia.gov/todayinenergy/detail.php?id=46416>

⁵ Santee Cooper 2020 Integrated Resource Plan (December 2020) at 3.

⁶ Central Electric Power Cooperative, Inc. Integrated Resource Plan 2021-2040 at 87.

1 **Q. WHAT IS THE SIGNIFICANCE OF THE SANTEE COOPER AND**
2 **CENTRAL IRP FINDINGS?**

3 A. The Santee Cooper and Central IRPs each represent detailed studies of these
4 utilities' power systems that encompass both economic and reliability analyses designed to
5 ensure that both short-term and long-term customer needs are met at a reasonable cost. By
6 systematically forecasting electric demand, assessing owned and purchased generation,
7 and comparing options for filling any gaps in generation capability and optimizing system
8 energy mix, these studies enable Santee Cooper and Central to meet their cost and
9 reliability goals as electric providers. Thus, the identification of new solar generation, as
10 noted above, by both IRPs as part of long-term resource plans that meet utility goals is a
11 compelling basis for the need to construct such generation with access to these utilities'
12 transmission grids.

13 **Q. HAVE SANTEE COOPER AND CENTRAL TAKEN STEPS TO PROCURE**
14 **THE NEW SOLAR GENERATION IDENTIFIED IN THEIR IRPS?**

15 A. Yes. In June 2020, Santee Cooper issued a request for proposals ("RFP") for solar
16 energy. The RFP stated that Santee Cooper is seeking to add up to 500 MW of solar
17 generation on a nameplate capacity basis.⁷ The RFP also noted that Central would
18 participate in evaluating responses, and may become a counterparty to one or more PPAs
19 through the RFP process. After receiving bids for 56 projects from 21 proposers totaling
20 approximately 3.6 GW of capacity⁸, the utilities have executed contracts for 425 MW to

⁷ Santee Cooper, Request for Proposals for Solar Power, RFP 2020-01 (June 5, 2020) at 4.

⁸ Santee Cooper, "Solar RFP Update" (August 3, 2020): <https://www.santeecooper.com/About/Increasing-Value/Lean-and-Green/index.aspx>, accessed April 2021.

1 be operational in 2023.⁹ SR Lambert I and II are among those projects that have been
 2 awarded contracts. Further, PPAs have been negotiated and executed for the SR Projects.

3 **Q. ARE YOU AWARE OF ANY OTHER INDICATIONS OF A NEED FOR**
 4 **THE FACILITIES?**

5 A. South Carolina has a policy of encouraging renewable energy, as embodied in Act
 6 62 of 2019 and Act 236 of 2014. The SCGA has established a variety of pathways whereby
 7 renewable energy is able to compete to meet energy demand within the state, including for
 8 example through Public Utility Regulatory Policies Act (“PURPA”) implementation¹⁰,
 9 integrated resource planning¹¹, and voluntary renewable energy programs for large
 10 customers¹². South Carolina’s investor-owned utilities have announced decarbonization
 11 goals, and have begun evaluating solar energy additions as part of their IRP
 12 development^{13,14}. Corporate and institutional energy users such as Google, Walmart, and
 13 the City of Charleston have established renewable energy and greenhouse gas emissions
 14 goals^{15,16}. Given this policy and customer demand landscape, coupled with the widespread
 15 cost-competitiveness of solar PV referenced above, I believe that it is reasonable to expect

⁹ Santee Cooper, “Central and Santee Cooper Finalize Contracts for 425 MWs of Solar” (January 25, 2021): <https://www.santeecooper.com/About/Increasing-Value/Lean-and-Green/index.aspx>, accessed April 2021,

¹⁰ SC Code 58-41-20

¹¹ SC Code 58-37-40

¹² SC Code 58-41-30

¹³ DESC 2020 Modified IRP at 6 and 48.

¹⁴ Duke Energy Carolinas 2020 IRP at 8 and 17.

¹⁵ Over 300 RE100 companies have committed to 100% renewable energy, <https://www.there100.org/re100-members> (accessed May 27, 2021).

¹⁶ The City of Charleston has a goal of 80% reduction in greenhouse gas emissions levels by 2050, <https://www.charleston-sc.gov/2311/Greenhouse-Gas-Emissions> (accessed May 27, 2021).

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1 that there will be a substantial market for new solar generation within the state in the next
2 three to five years.

3 **Q. PLEASE PROVIDE YOUR CONCLUSIONS ABOUT THE NEED FOR THE**
4 **FACILITY.**

5 A. Santee Cooper and Central have both identified near-term additions of new solar
6 generation as part of long-term resource plans that meet their goals as electric providers.
7 They have also taken action to procure that solar energy, and they have selected the SR
8 Projects as winning bidders in a competitive RFP process, including executing contracts
9 for purchasing the power output of the SR Projects. More broadly, investor-owned utilities
10 and corporate customers in the state are potential sources of additional demand for new
11 solar generation in the coming years. In sum, there is a strong basis for the need for the SR
12 Projects, the facilities at issue in this application.

13
14 **III. SYSTEM ECONOMY**

15 **Q. DO THE SR PROJECTS SERVE THE INTEREST OF SYSTEM**
16 **ECONOMY?**

17 A. Yes. The economic analyses performed as part of Santee Cooper and Central
18 resource planning efforts demonstrate that adding new solar generation improves the
19 economic performance of these utilities' systems. This finding is in line with market
20 indicators and national trends in resource planning and procurement.

21 **Q. PLEASE PROVIDE MORE DETAIL ON THE SANTEE COOPER AND**
22 **CENTRAL ECONOMIC ANALYSES YOU REFERENCE.**

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1 A. Santee Cooper developed a Resource Planning Study as part of its Reform Plan
 2 submitted to the South Carolina General Assembly (“SCGA”) in January 2020.¹⁷ The
 3 Resource Planning Study describes a detailed economic comparison of alternative resource
 4 portfolios for meeting Santee Cooper system load over a 20-year planning period. The
 5 analysis used industry-standard software tools including a capacity expansion model,
 6 considered multiple possible coal retirement schedules, and compared plans across a
 7 variety of sensitivity cases such as fuel prices, CO₂ regulations, and load growth
 8 assumptions.

9 Similarly, the Central 2020 IRP document lays out a multi-step resource plan
 10 development process that Central conducted beginning in 2019. Central used capacity
 11 expansion modeling to design and screen more than 100 alternate resource plans, followed
 12 by hourly system production cost modeling to calculate detailed costs for a smaller subset
 13 of candidate plans. Central also compared the economic performance of the candidate plans
 14 across sensitivity cases such as fuel prices, CO₂ regulations, and load growth assumptions.

15 **Q. DID THE SANTEE COOPER AND CENTRAL ANALYSES EVALUATE**
 16 **WHETHER PLANS WITH NEAR-TERM SOLAR ADDITIONS WOULD**
 17 **REDUCE COSTS FOR CUSTOMERS?**

18 A. Yes. Santee Cooper’s Resource Planning Study modeled system costs for a
 19 Reference Case and for three candidate plans including different combinations of coal
 20 retirements and new renewable energy and gas-fired resource additions. In the Reference
 21 Case, Santee Cooper’s existing system was operated as-is, with no additions or retirements

¹⁷ Santee Cooper Reform Plan (January 2020), Appendix 8.3 – nFront Resource Planning Study.

1 other than new peaking resources to meet demand growth in the later years of the planning
2 period. The analysis found, for example, that a plan including 1,000 MW of new solar
3 generation added by 2024 would save over \$1.3 billion on a net present value basis
4 compared to the Reference Case in which no solar generation was added.¹⁸ Santee Cooper
5 selected this plan in the Resource Planning Study,¹⁹ and in its subsequent 2020 IRP filing
6 has selected an updated but similar plan that includes adding 500 MW of new solar by
7 2023.

8 Central's 2020 IRP identified 28 candidate plans that the utility modeled with
9 enhanced detail. The 28 plans were composed of various combinations and schedules of
10 new solar generation, battery storage, power purchases, and owned gas-fired resource
11 additions, and the highest ranking plan included 225 MW of new solar added in 2022.²⁰
12 The IRP also concluded that "The analysis in this report indicates that replacing energy
13 purchases from fossil fuel plants with the development of solar energy resources reduces
14 power costs."²¹

15 **Q. HAVE YOU REVIEWED THE CONFIDENTIAL BID INFORMATION**
16 **FOR THE SR PROJECTS AND CONFIRMED THAT IT IS CONSISTENT WITH**
17 **THE SOLAR PPA ASSUMPTIONS USED IN THE SANTEE COOPER AND**
18 **CENTRAL ANALYSES?**

19 A. Yes, I have.

¹⁸ Santee Cooper 2019 Resource Planning Study at 55-56.

¹⁹ Id. at 2-4.

²⁰ Central 2020 IRP at 87.

²¹ Central 2020 IRP at 91.

1 **Q. WOULD ADDING SOLAR GENERATION BE EXPECTED TO PROVIDE**
2 **ANY ADDITIONAL ECONOMIC BENEFITS TO SANTEE COOPER AND**
3 **CENTRAL BEYOND THOSE YOU’VE ALREADY DISCUSSED?**

4 A. Yes. Both the Santee Cooper and the Central systems include a very heavy reliance
5 on fossil-fueled power plants, with minimal existing solar generation at this time. Santee
6 Cooper currently generates 70% of its energy from coal- and gas-fired generating units²²,
7 and has approximately 8 MW of owned and purchased solar on its system, which equates
8 to a fraction of 1% of system energy.²³ Central’s energy mix includes 59% coal and gas
9 generation and 1% solar.²⁴ Thus, all else equal, adding new solar generation and thereby
10 reducing the total system energy production from fossil-fueled resources would enhance
11 supply diversity on both systems. This enhanced supply diversity would represent an
12 economic benefit to customers by reducing their exposure to potential fuel price increases
13 or rising generation costs driven by future environmental regulations relating to pollutants
14 such as CO₂.

15 **Q. ARE YOU SURPRISED BY THE RESULTS OF THE SANTEE COOPER**
16 **AND CENTRAL ANALYSES?**

17 A. No. As noted above, across the United States fossil generation is being displaced
18 by lower cost resources such as solar PV. A considerable amount of this displacement is
19 occurring as a consequence of long-term resource planning exercises that identify
20 renewable energy as a cost-effective substitute for fossil generation. Given these industry

²² Santee Cooper 2019 Resource Planning Study at 10.

²³ Santee Cooper 2020 IRP at 49-50.

²⁴ Central 2020 IRP at 25.

1 trends and the very low levels of existing renewable energy on the Santee Cooper and
2 Central systems, I would expect power systems modeling efforts to reveal cost savings
3 opportunities from adding solar PV.

4 **Q. PLEASE PROVIDE YOUR CONCLUSIONS ABOUT SYSTEM**
5 **ECONOMY.**

6 A. Based on the detailed long-term economic analyses presented in the Santee Cooper
7 and Central IRPs, adding solar PV to these systems is expected to reduce power costs
8 relative to alternate supply options. Solar PV additions would also enhance supply
9 diversity, thereby providing additional economic benefit to customers. Further, the SR
10 Project bids are consistent with the solar PPA assumptions used by the utilities in their
11 economic analyses. In sum, I conclude that the SR Projects do serve the interest of system
12 economy.

13
14 **IV. SYSTEM RELIABILITY**

15 **Q. DO THE SR PROJECTS SERVE THE INTEREST OF SYSTEM**
16 **RELIABILITY?**

17 A. Yes. The reliability analyses performed as part of Santee Cooper and Central
18 resource planning efforts demonstrate that adding new solar generation maintains the
19 reliability of these utilities' systems. These findings are also in line with industry trends in
20 system operations as renewable energy has been added to utility grids.

21 **Q. PLEASE PROVIDE MORE DETAIL ON THE SANTEE COOPER AND**
22 **CENTRAL RELIABILITY ANALYSES YOU REFERENCE.**

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1 A. The Santee Cooper Resource Planning Study that I discussed above includes two
2 components related to system reliability and solar generation. First, the candidate plans that
3 Santee Cooper evaluated incorporated summer and winter reserve margin constraints such
4 that each plan included enough generating capacity in each year to serve peak load, plus a
5 reserve margin or buffer to ensure that even under abnormally high load conditions or with
6 a forced outage at a generating unit, the system would have enough capacity to meet
7 demand. And second, Santee Cooper performed an operational analysis using an hourly
8 chronological dispatch simulation to assess the impact of solar variability on the system's
9 ability to balance supply and demand and thus maintain reliability.

10 Central's 2020 IRP contains similar reserve margin constraints, and uses a
11 sensitivity case approach to represent the impact of solar variability.

12 **Q. WHAT ARE THE FINDINGS OF THE SANTEE COOPER AND CENTRAL**
13 **RELIABILITY ANALYSES?**

14 A. In the Santee Cooper Resource Planning Study, as discussed above, the reserve
15 margin constraints ensure that under each alternative resource plan evaluated, Santee
16 Cooper can meet the highest levels of demand throughout the planning period. This
17 includes the plan described above that adds 1,000 MW of new solar by 2024 and that the
18 utility selected for implementation.²⁵ Further, the additional hourly operational analysis
19 that Santee Cooper conducted "did not identify any significant issues with respect

²⁵ Santee Cooper 2019 Resource Planning Study at 54.

1 to system or resource reliability” for resource portfolios with up to 1,000 MW of new
2 solar.²⁶ More specifically, the quantity of unserved energy was unaffected by the amount
3 of installed solar, operating reserve deficiencies were zero for portfolios with up to 1,000
4 MW of new solar, and curtailed energy was zero for portfolios with up to 500 MW of new
5 solar and “very small” (0.01%) for portfolios with up to 1,000 MW of new solar.²⁷

6 In Central’s 2020 IRP, again reserve margin constraints ensure that under each
7 alternative resource plan evaluated, Central can meet the highest levels of demand
8 throughout the planning period, including for the highest ranking plan described above that
9 adds 225 MW of new solar in 2022.²⁸ Regarding solar variability, Central used sensitivity
10 cases as a proxy for potential solar integration costs in lieu of performing detailed system
11 simulations, whereby Central’s capacity expansion model was limited to adding up to 150
12 MW, 225 MW, or 450 MW of new solar in the low, base, and high renewables cases,
13 respectively. The IRP states that “Central believes that these incremental additions of solar
14 are technically and economically viable.”²⁹

15 **Q. WOULD YOU HAVE EXPECTED TO SEE DIFFERENT RESULTS AND**
16 **CONCLUSIONS THAN THOSE YOU’VE DESCRIBED FROM THE SANTEE**
17 **COOPER AND CENTRAL RELIABILITY ANALYSES?**

18 A. No. Industry experience has shown that low levels of renewable energy resources
19 such as solar PV do not pose significant reliability challenges. Based on data from many

²⁶ Santee Cooper 2019 Resource Planning Study at 37-38.

²⁷ Id.

²⁸ Central 2020 IRP at 65, 75 and 81.

²⁹ Central 2020 IRP at 78.

1 peer utilities around the country³⁰, I would expect that the level of solar PV identified in
2 the Santee Cooper and Central IRPs would have minimal impacts on system operations,
3 leading to no adverse reliability effects. Further, DESC is an example of a South Carolina
4 utility that has added more solar PV than Santee Cooper and Central have procured, and
5 while its system operations have evolved, system reliability has been maintained at normal
6 levels. Thus, Santee Cooper and Central's conclusions that adding solar energy is expected
7 to maintain system reliability are consistent with industry trends.

8 **Q. PLEASE PROVIDE YOUR CONCLUSIONS ABOUT SYSTEM**
9 **RELIABILITY.**

10 A. Based on the reliability analyses and conclusions from the Santee Cooper and
11 Central IRPs, adding solar PV to these systems will maintain system reliability both from
12 a peak demand standpoint and from an hourly supply and demand balancing standpoint. I
13 therefore conclude that the SR Projects serve the interest of system reliability.

14
15 **V. ADDITIONAL CONSIDERATIONS**

16 **Q. WHAT ADDITIONAL CONSIDERATIONS WOULD YOU LIKE TO**
17 **PRESENT REGARDING THE SR PROJECTS?**

18 A. I'd like to bring an additional factor to the attention of the Commission: relevant
19 policy language from Act 135 of 2020.

20 **Q. PLEASE DESCRIBE HOW ACT 135 RELATES TO THIS PROCEEDING.**

³⁰ See for example A.D. Mills et al. Solar-to-Grid: Trends in System Impacts, Reliability,
and Market Value in the United States (Lawrence Berkeley National Laboratory, February 2021).

1 A. Act 135 of 2020 in part addresses oversight of Santee Cooper. One brief provision
 2 is worth noting for purposes of this CECPCN application: “Nothing in this section prohibits
 3 Santee Cooper from... doing all those things necessary for deploying up to 500 megawatts
 4 of new solar generation, within the structure described in the Santee Cooper Act 95 Reform
 5 Plan Appendix 8.2.4, subject to consent of Central pursuant to the Coordination
 6 Agreement....”³¹ This is relevant because the SC General Assembly recognized Santee
 7 Cooper’s intentions, based on the 2019 Resource Planning Study described above, to
 8 procure material amounts of new solar generation, and effectively authorized Santee
 9 Cooper to execute plans to add up to 500 MW of solar to its system. In other words, recent
 10 policy passed by the SCGA supports the need for new solar on the Santee Cooper system,
 11 which the SR Projects would contribute towards satisfying.

12

13 **VI. CONCLUSIONS AND RECOMMENDATIONS**

14 **Q. PLEASE SUMMARIZE YOUR TESTIMONY CONCLUSIONS AND**
 15 **RECOMMENDATIONS.**

16 A. My testimony concludes that there is a demonstrated need for the SR Projects, to
 17 meet demand for solar energy identified in the long-term planning efforts used by Santee
 18 Cooper and Central to satisfy their goals as electric service providers. Additionally, the
 19 detailed economic and reliability analyses performed as part of these utilities’ integrated
 20 resource planning processes found that solar energy such as that provided by the SR
 21 Projects would improve system economics while maintaining reliability at all times. Thus,

³¹ Act 135 of 2020 Section 11(E)(2)

1 there is a need for the SR Projects, and the SR Projects serve the interest of system economy
2 and reliability. I recommend that the Commission grant the SR Projects' CECPCN.

3 **Q. PLEASE PROVIDE YOUR ASSESSMENT OF THE ADDITIONAL SITING**
4 **ACT PROVISIONS NOTED ABOVE.**

5 A. The Siting Act requires that "a person may not commence construction of a major
6 utility facility for generation without first having made a demonstration that the facility to
7 be built has been compared to other generation options in terms of cost, reliability, and any
8 other regulatory implications deemed legally or reasonably necessary for consideration by
9 the commission." My testimony has described two key demonstrations that the SR Projects
10 have been compared to other generation options: first, the integrated resource planning
11 comparisons whereby certain resource plans with additional solar PV outperformed other
12 plans containing alternative combinations of energy resources; and second, the competitive
13 RFP conducted by Santee Cooper and Central that specifically identified the SR Projects
14 as top competitors among numerous solar project proposals, and thereby deserving of a
15 contract award.

16 Finally, given the demonstrations of need, system economy and reliability, and the
17 comparison to other generation options that I have detailed in my testimony, I believe that
18 the public convenience and necessity require the construction of the SR Projects.

19 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

20 A. Yes.
21